

## Contributors to this Issue

E. N. GILBERT, B.S., Queens College, 1943; Ph.D., Massachusetts Institute of Technology, 1948. M.I.T. Radiation Laboratory, 1944-46. Bell Telephone Laboratories, 1948-. Dr. Gilbert's first assignment was in a group studying information theory, and in 1949 he joined a group concerned with switching theory. Member of the American Mathematical Society.

I. L. HOPKINS, B.S., Massachusetts Institute of Technology, 1927; Bell Telephone Laboratories, 1927-. For eighteen years, Mr. Hopkins designed testing equipment and tested insulating materials. Right after World War II, he tested and developed special-purpose rubber compounds, and since 1948 he has been conducting research in the physical properties of polymers.

W. A. MALTHANER, B.E.E., Rensselaer Polytechnic Institute, 1937. Bell Telephone Laboratories, 1937-. Mr. Malthaner is currently engaged in research on new automatic telephone central-office systems, inter-office signaling systems, and subscriber dialing and supervisory arrangements. Until World War II, when he worked on the development of automatic fire control systems and fire control radar, Mr. Malthaner tested and developed central office circuits and switching systems. Associate of the American Institute of Electrical Engineers. Member of the Institute of Radio Engineers, Tau Beta Pi and Sigma Xi.

WARREN P. MASON, B.S. in E.E., University of Kansas, 1921; M.A., Ph.D., Columbia, 1928. Bell Telephone Laboratories, 1921-. Dr. Mason has been engaged in investigating the properties and applications of piezoelectric crystals, in the study of ultrasonics, and in mechanics. Fellow of the American Physical Society, Acoustical Society of America and Institute of Radio Engineers and member of Sigma Xi and Tau Beta Pi.

BROCKWAY McMILLAN, B.S., Massachusetts Institute of Technology, 1936; Ph.D., Massachusetts Institute of Technology, 1939; Instructor of Mathematics, Massachusetts Institute of Technology, 1936-39; Procter

Fellow and Henry B. Fine Instructor in Mathematics, Princeton University, 1939-42; U.S.N.R., 1942-46, studying exterior ballistics of guns and rockets; Los Alamos Laboratory, spring 1946; Bell Telephone Laboratories, 1946-. Dr. McMillan has been engaged in mathematical research and consultation work. Member of American Mathematical Society, Institute of Mathematical Statistics, and A.A.A.S.

JAMES Z. MENARD, B.S., Arkansas State Teachers College, 1941. U. S. Army, 1941-46. Bell Telephone Laboratories, 1946-. Mr. Menard has been engaged in the development of magnetic recording equipment and audio equipment for telephone plant applications.

J. A. MORTON, B.S. in E.E., Wayne University, 1935; M.S., University of Michigan, 1936. Bell Telephone Laboratories, 1936-. Mr. Morton is currently in charge of the development of the transistor and other semi-conductor devices. In the past he has been concerned with research on coaxial cables, microwave amplifier circuits, radar receivers, and with vacuum tube development. He designed a microwave tube used in the New York-San Francisco microwave relay system. Member of the I.R.E., Eta Kappa Nu, Alpha Delta Psi, Mackenzie Honor Society, Phi Kappa Phi, and Sigma Xi.

H. EARLE VAUGHAN, B.S. in C.E., Cooper Union, 1933. Bell Telephone Laboratories, 1928-. Since World War II, Mr. Vaughan has been investigating switching systems and high speed signaling means. In the past he studied voice operated devices and fundamental effects of speech and noise on voice-frequency signaling systems. During World War II, he was engaged in government projects, conducting research on anti-aircraft computers and fire control radars.

SAMUEL D. WHITE, B.S. in E.E., Rutgers University, 1927; E.E., Rutgers University, 1932; Bell Telephone Laboratories, 1927-. Until 1939, Mr. White was a member of the acoustical research department. He then entered the switching apparatus development group and is currently studying some aspects of relay problems. Member of I.R.E., Acoustical Society of America, and Sigma Xi.